CHAPTER 1: INSTALLATION

Chapter 1 deals with installation of your **Evoheat** pool heater and is predominately for use by your installer/ technician. **Evo** recommends however that owners make themselves familiar with this chapter.

CHAPTER 2: OPERATION

Chapter 2 covers operation of your **Evoheat** pool heater including basic and advanced operation modes and maintenance/ troubleshooting.

Please take the time to read this manual thoroughly. Failure to do so can void customer warranty, cause possible damage to your heater, and may cause a loss of heater efficiency.

Table of CONTENTS

1. General Information 3
1.1 Introduction 3
1.2 Consumer and Safety Information 3
1.3 Energy Saving Tips 3
2. Specifications 4
2.1 Technical specifications of DHP models 4
2.2 Dimensions 5
INSTALLATION 6
3. General installation information 7
3.1 Inspection 7
3.2 Location 8
3.3 Clearances 8
3.4 Water Flow and Plumbing Setup 9
3.5 Drainage 10
3.6 Electrical Connection 10
3.7 Water Pump Connection 11
3.8a Initial start up at handover 11
3.8b Initial start up at handover 12
OPERATION 14
4.1 1. Existing filter pump/chlorinator/timer controls the heater 15
4.2 2. Heater controls a dedicated water pump – advanced operation 16
Programmed Options – “Timer” Mode 17
Programmed Options – “Auto” Mode 19
MAINTENANCE & TROUBLE SHOOTING 21
5.1 Maintenance 21
5.2 Troubleshooting 21
5.3 Error Descriptions and Solutions 23
APPENDIX A Wiring Diagrams 27
EVOHEAT Pump Warranty 28
Warranty Registration 29

1. General information

1.1 Introduction

This manual provides installation and operation instructions for EVOHEAT heat pumps. Read these installation and operation instructions carefully before proceeding with the installation and operation of your heater. Consult your EVOHEAT Distributor with any questions regarding this equipment.

Installation and service must be performed by a qualified installer. The manufacturer will not be responsible for any damage to the unit or injury caused by improper installation, operation or maintenance.

1.2 Consumer and Safety Information

a. Evo recommends 27°C as the optimum water temperature for swimming.

b. The consumption of alcohol or drugs before or during spa or pool use can cause drowsiness which could lead to unconsciousness and subsequent risk of drowning.

c. Immersion in water exceeding 38°C during pregnancy is not recommended.

d. The water temperature should always be checked with an accurate thermometer before entering a spa or hot tub.

e. Persons with a medical history of heart disease, diabetes, circulatory or blood pressure problems should consult their physician before using a hot tub or spa.

f. Persons taking any medication or drugs which induce drowsiness (e.g., tranquilizers, antihistamines, or anticoagulants) should not use spas or hot tubs.

g. Prolonged immersion in hot water can induce hyperthermia.

1.3 Energy Saving Tips

It is important to note that a heat pump will not heat a pool as fast as a large gas pool heater. If the pool water is allowed to cool significantly, it may take several days to return to the desired swimming temperature. For weekend use, it is more economical to maintain the pool water temperature at or near your desired swimming temperature. If you do not plan to use your pool for a prolonged period, then you might choose to turn the heat pump completely off or decrease the temperature setting of the control several degrees to minimize energy consumption.

a. Use an accurate pool thermometer. A difference of 2°C , between 26°C and 28°C, will significantly increase energy consumption.

b. Carefully monitor the water temperature of your pool in the summer time. You can reduce heat pump usage due to warmer air temperatures.

c. When the pool is not to be used for long periods, turn off the heat pump.

d. Where possible, shelter the pool from prevailing winds with well-trimmed hedges or other landscaping, cabanas, or fencing.

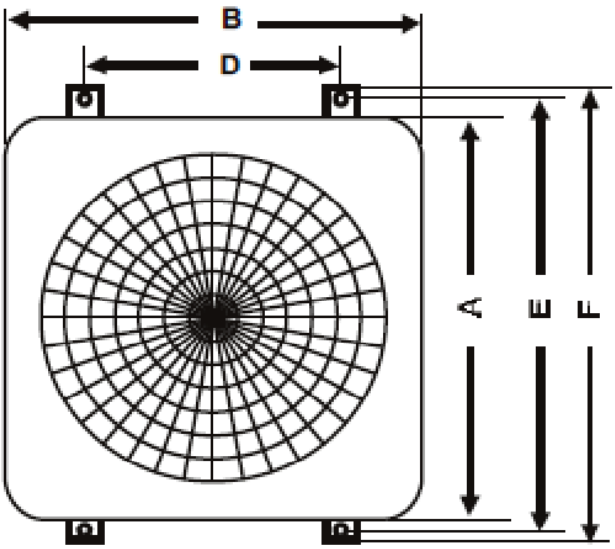
e. Always use a high quality pool cover when practical. Besides providing a valuable water saving feature, a pool cover will dramatically reduce heat loss. See attached appendix for further information.

2. Specifications

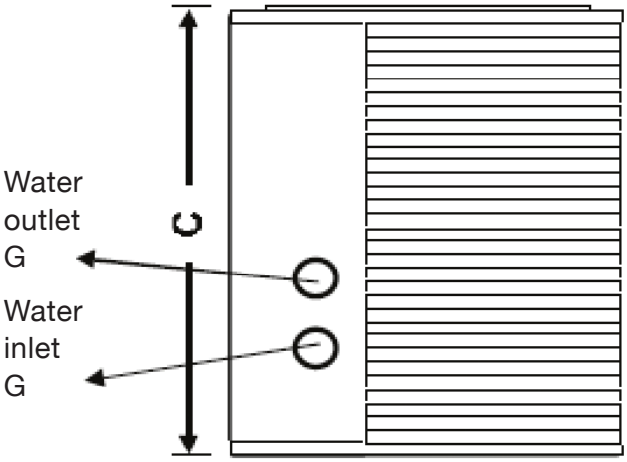
2.1 Technical specifications of DHP models

Model		DHP20	DHP30	DHP40	DHP50	DHP601	DHP603
Recommended Max Pool Size	Litres	20,000	30,000	40,000	50,000	60,000+	60,000+
HEAT OUTPUT MAX *	KW	11.3	16.0	18.9	26	32.5	32.5
Heat output @ 24°C Air	KW	10.1	13.2	17.8	21.3	25.0	25.0
Heat output @ 15°C Air	KW	7.5	10.5	16	17.8	21.5	21.5
Power input @ 24°C Air	W	1800	2600	3500	4300	5000	5000
Efficiency @ 24°C Air	COP	5.6	5.1	5.1	5.0	5.0	5.0
	Evoheat recommend using a pool cover on any pool that is heated						
Running Current		7.7	11.8	15.9	19.5	22.7	8.3
Circuit Breaker	A	15	25	30	40	45	20
Power Requirements	V/Ph/Hz	240/1/50	240/1/50	240/1/50	240/1/50	240/1/50	415/3/50
Compressor Type		Rotary	Rotary	Scroll	Scroll	Scroll	Scroll
Heat Exchanger	Double Titanium Coil in PVC Barrel						
Refrigerant	R407c Gas						
Noise Level	dB(A)	51	54	56	58	58	58
Water Connection	mm	50	50	50	50	50	50
Optimal Water Flow	Litres/min	50	75	100	125	150	150
Dimensions L/W/H	mm	580/545/750		650/650/880			
Weight Net / Gross	Kg	61/66	66/71	96/106	100/110	106/116	118/128

2.2 Dimensions



Vertical view



Horizontal view

DHP / SIZE mm	A	B	C	D	E	F	G
020/030	542	539	750	322	557	580	Φ50
040/050/060	700	700	845	400	720	745	Φ50

CHAPTER 1 INSTALLATION

Before installation it is very important to ensure 4 variables are carefully checked to allow the unit to operate correctly

1. **Adequate Air Flow**
2. **Correct water flow volume**
3. **Correct electrical connection & supply**
4. **Heater condition**

1. Air Flow

Installing the heater indoors or in an enclosed space will result in very poor performance and can in extreme cases damage the heater. Ensure the heater is installed in a well ventilated area with plenty of fresh air, a minimum gap between walls/fences etc of 600mm on the sides and 1500mm overhead clearance.

Important: Ensure that the cold air off the top of the heater does not recycle through the heater.

SEE PAGE 8 FOR FURTHER INFORMATION

2. Water Flow

It is CRITICAL that there is sufficient water flow to the unit. Incorrect water flow can cause a loss of efficiency and possible damage to the unit. Optimal water flow rates are listed in the Evoheat sales brochure and in this manual on page __. It is imperative that water flow is kept as close as possible to these flow rates. Correct water flow not only offers optimal heater performance, but may also prevent possible damage to your heater.

SEE PAGE 9 FOR FURTHER INFORMATION

3. Electrical Connection

Always use a qualified Electrician to perform any electrical work. Ensure the power cable and circuit breaker are of a suitable size for the heater being installed. Also check that there is adequate voltage and current available at the heater connection to run the unit. Voltage range should be 220-240 volts for single phase, and 380-415 volts for 3 phase units. Voltage ranges outside these parameters will cause heater damage and void your warranty. Correct phase connection is important with 3 phase heaters.

SEE PAGE 10 FOR FURTHER INFORMATION

4. Heater Condition

Check the heater packaging upon delivery for any obvious signs of damage. Inform your supplier IMMEDIATELY if there is any evidence of rough handling.

When the heater has been removed from the packaging check the refrigerant gauge on the front panel of the unit. The gauge should be showing a pressure of approx 1Mpa on the outside black band – any less than this figure means there may be a leak in the refrigerant system and you should immediately contact your Evoheat Dealer.

Example of a unit with a refrigerant leak and zero pressure – notify Evoheat Dealer.

3. General installation information

3.1 Inspection

Inspect the packaging, the heater and other items after receipt for possible damage in transportation. Please contact your EVOHEAT dealer immediately should you suspect any damage has occurred during transportation.

Install your EVOHEAT heat pump in accordance with the procedures in this manual. Always check that your installation will comply with local building and council regulations.

Correct installation is required to ensure safe and efficient operation of your pool heater. Installation requirements for EVOHEAT heat pumps include the following:

a. Appropriate site location and clearances.

b. Sufficient air ventilation.

c. Correct electrical connection.

d. Adequate water flow.

This manual provides the information needed to meet these requirements.

Review all application and installation procedures completely before continuing the installation

3.2 Location

Evo recommend the heat pump should ONLY be installed in an outdoor location with appropriate ventilation.

In the event that a suitable outdoor location is unavailable contact Evo Industries for specialist technical advice.

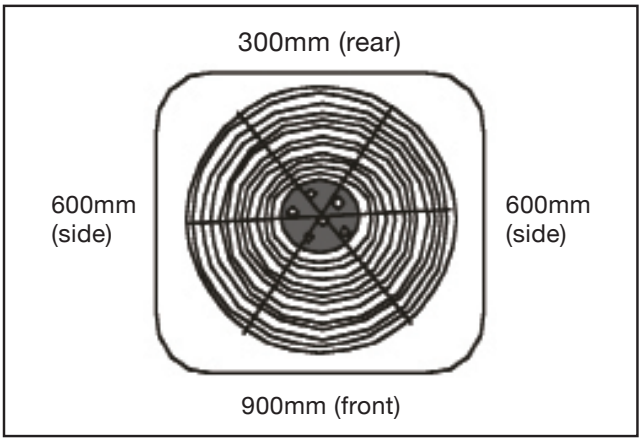
If installing the heater on an existing pump/filtration system the heater must be installed AFTER the filter and BEFORE the chlorinator/sanitizer.

The heat pump should be installed on a flat level surface as close as possible to the pool. Large runs of uninsulated piping can significantly contribute to heat loss. A rough estimate of heat loss over a 30m pipe run can be as high as 600 Watts per hour per 5 degrees of temperature difference between the air/ground and the pool water. These losses need to be taken into account over long distances and piping may need to be insulated to reduce heat leakage.

The heat pump should be installed a maximum of 1m below the water level of the pool/spa.

Make sure the heat pump is not located where large amounts of water may run-off from a roof into the unit. Sharp sloping roofs without gutters will allow excessive amounts of rain water mixed with debris from the roof to be forced through the unit. A water deflector may be needed to protect the heat pump.

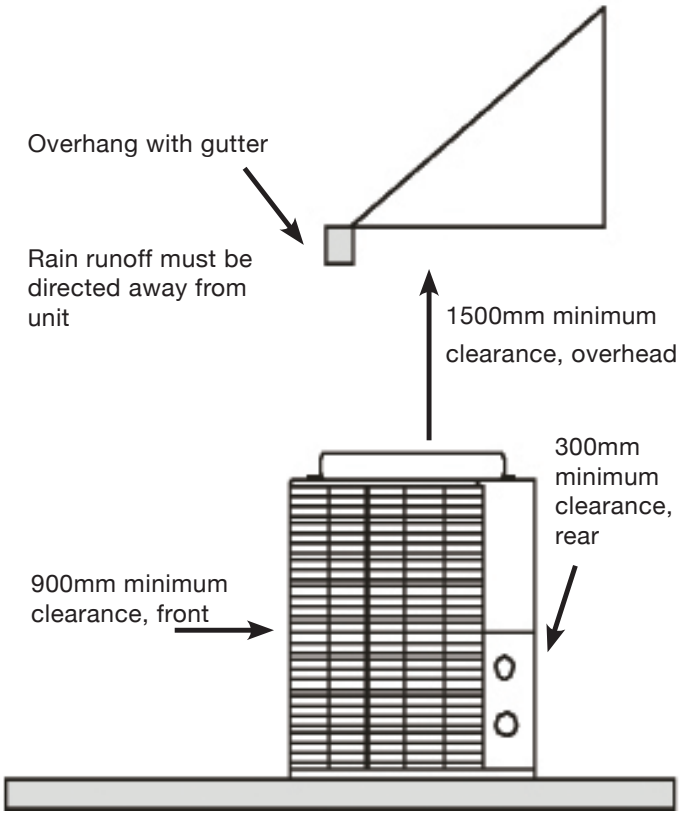
Minimum required clearances



3.3 Clearances

The unit needs continuous fresh air whilst running. The heater draws up to 80m3/min ambient air through the sides and discharges through the top fan cowl. Leave sufficient space for unobstructed airflow into and out of the heater.

Do not locate the heater in an enclosed area, or the discharged cold air will recirculate into the unit and consequently lower the heating efficiency.


Overhang with gutter
Rain runoff must be directed away from unit
1500mm minimum clearance, overhead
300mm minimum clearance, rear
900mm minimum clearance, front

3.4 Water Flow and Plumbing Setup

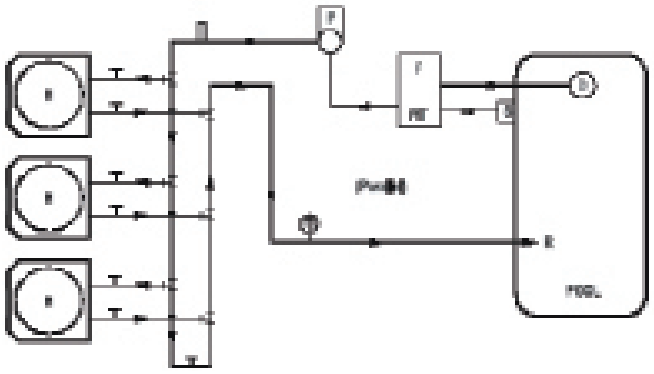
All EVOHEAT heat pumps have a factory preset internal water flow switch. If there is insufficient water flow the heater will not operate.

Before connecting the heater to the plumbing, all piping must be thoroughly flushed to ensure no debris can enter the heater. Failure to remove pipe debris can jam or damage the flow switch and may cause damage to the heater.

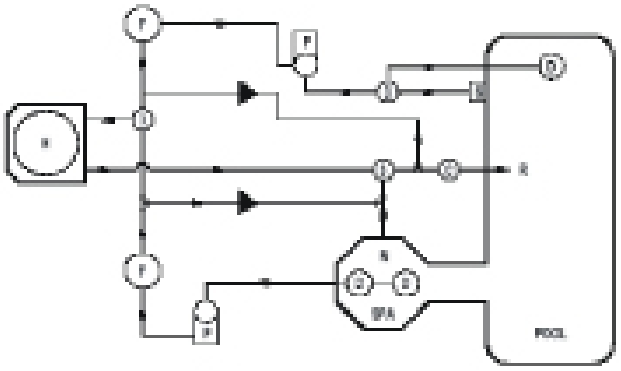
When cleaning the pool it is advisable to turn off your heater as restricted water flow may cause the heater to shut down and indicate low water flow fault (P08 error).

Typical plumbing layouts

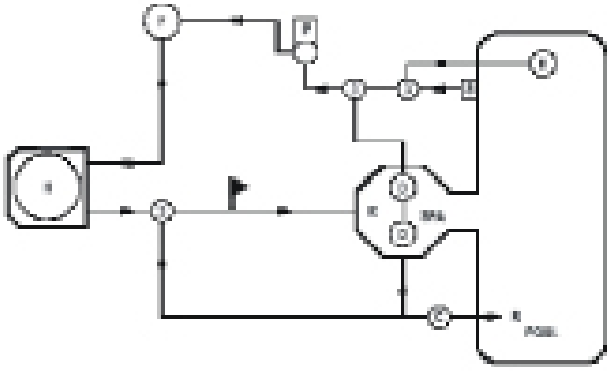
Heater spacing minimum, 24"



Multiple Heat Pump Installation



Pool Spill 0ver Spa – One Pump System



Pool Spill 0ver Spa – Two Pump System

LEGEND

3 – 3 way valve
C – Chlorinator (if used)
D – Drain
F – Filter
H – Heat Pump
P – Pump
R – Return
S – Skimmer
– Flow Switch (ADT Kit)
T – Throttle valve
– Thermometer
– By-Pass Check Valve
– Flow Meter

3.5 Drainage

Whilst the heater is operating, water in the air condenses on the fins of the evaporator. In the instance of high humidity, the condensate may be several litres per hour. This may give the impression that the heater is leaking, however this is a normal function of heat pumps. The heater will automatically activate reverse cycle or de-icing mode when required which also increases condensate discharge. This normally occurs at temperatures below 8 degC. The condensate water will discharge through the base of the heater. As an option a pipe can be connected to the drain on the base of the unit to direct condensate water to an appropriate location.

3.6 Electrical Connection

NOTE: ***EVO heat pumps MUST be connected by a licensed electrician. Under no circumstances should you attempt to install or repair your heat pump yourself.***

Heater electrical installation undertaken by an unlicensed installer may cause electric shock or even death, and will void the warranty.

A licensed electrician must read the information in this manual before connecting.

a. Ensure power is disconnected during installation or service.

b. Always comply with the national and local electrical codes and standards.

c. Ensure electrical cable size is adequate for heater requirements at the installation location.

d. The heater must be equipped with a circuit breaker and isolation device.

e. circuit breaker must be installed between the heater and the water circulation pump if the water pump is hard-wired into the heater. Please note recommended circuit breaker sizes make no allowance for a water pump hard wired into the heater.

f. Evo strongly recommends the installation of a Residual Current Device.

g. The unit must be well earthed.

h. Connect the wire controller with the supplied cable. If a longer cable is required it can be lengthened to suit the application up to a maximum 100m run.

Remove the front panel to access the electrical connection terminals of the heater.
The electrical wiring diagram is affixed to the inside of the front panel.

SEE APPENDIX “A” FOR WIRING DIAGRAM INFORMATION

3.7 Water Pump Connection

There are 2 methods to install an Evo heat pump.

1. EXISTING FILTER PUMP/CHLORINATOR/TIMER CONTROLS THE HEATER

✔ **Integrated Operation** – Ideal mode for retro fit to existing filter/pump set ups. Operation of the filter pump controls the heater start and shut down timing.

2. HEATER CONTROLS A DEDICATED WATER PUMP

This option is required for **Programmed Options** modes. This water pump is installed for heater circulation only.

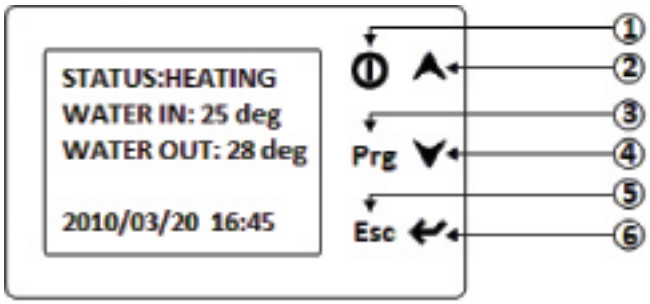
This method requires the water pump to be hard-wired into the heater via the Pump Power inlet. With the water pump wired in this manner the heater is able to operate in the following mode.

✔ **Programmed Options** – Allows you to select the daily start and stop time of both the heater and water pump. This mode can also be used as Set and Forget auto mode.

3.8a Initial start up at handover

METHOD 1 - WATER PUMP CONTROLS THE HEAT PUMP

(For operating instructions refer to Chapter 2)



a. Check the connections, wires and cables of the unit are correctly installed.

b. Turn on the water pump. Check for water leakage and check for optimum water flow. Adjust water flow by adjusting bypass valves until water flow through heater is sufficient.

c. Turn on the power to the heater at the main isolating switch. With the heater in STAND-BY mode, enter the MAIN MODE SELECT menu and select HEAT. ESC back to the first menu screen and select the PARAMETER menu and adjust the HEAT TEMP to 30 degrees (adjust higher if the pool water temp is hotter than 30 degrees)

d. Then press the ON/OFF button on the remote controller. The heater will start shortly after water flow commences. Actual conditions can be checked by going to the MAIN menu and selecting UNIT status to view water inlet and outlet, refrigerant pipe and ambient air temps.

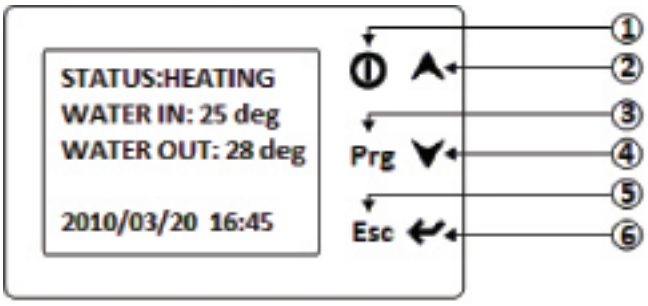
e. After the unit runs for a few minutes, check whether the air discharged by the fan is noticeably cooler than the ambient air. If no cold air check the refrigerant gauge on the heater to ensure there is a refrigerant charge in the unit. Another way to determine if the heater is working correctly is to view MAIN MENU>UNIT STATUS. Check to see if the WATER OUT temp is higher than the WATER IN temp. If no cold air or the water in and out temps are the same check the refrigerant gauge on the heater to ensure there is a refrigerant charge in the unit. Check also the INLET WATER TEMP is lower than the HEAT TEMP set point.

f. Turn the water pump off while the unit is running. The unit should stop working automatically and a water flow error will appear. If not, contact Evo Industries for further advice.

g. Turn the water pump on again and wait for the unit to restart.

3.8b Initial start up at handover

METHOD 2 - HEAT PUMP CONTROLS THE WATER PUMP



a. Check the connections, wires and cables of the unit are correctly installed.

b. Turn on the power to the heater at the main isolating switch. With the heater in STANDBY mode, enter the MAIN menu and select HEAT. ESC back to the first menu screen and select the PARAMETER menu and adjust the HEAT TEMP to 30 degrees (adjust higher if the pool water temp is hotter than 30 degrees). Go to the PUMP sub-menu in the PARAMETER menu and change to SPECIAL.

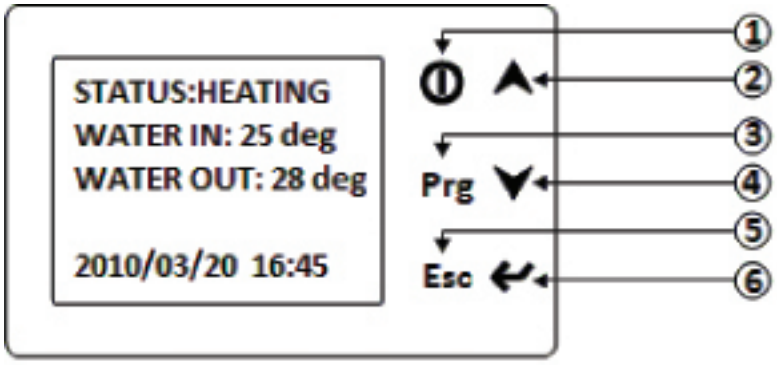
c. Go to the TIME sub-menu and set the current day and time. Set the TIMER ON to a value 5mins in the future and the TIMER OFF value 10mins in the future.

d. Press the ON/OFF button on the remote controller. The water pump will start when the time reaches the TIMER ON setting and the heat pump will start 60 seconds after this value. The heat pump will shut down when it reaches the TIMER OFF value and the water pump will shut down 30 seconds afterwards . Actual conditions can be checked by going to the MAIN menu and selecting UNIT status to view water inlet and outlet, refrigerant pipe and ambient air temps.

e. With the water pump running, check for water leakage and check for optimum water flow. Adjust water flow by adjusting bypass valves until water flow through heater is sufficient.

f. After the unit runs for a few minutes, check whether the air discharged by the fan is noticeably cooler than the ambient air. Another way to determine if the heater is working correctly is to view MAIN MENU>UNIT STATUS. Check to see if the WATER OUT temp is higher than the WATER IN temp. If no cold air check or the water in and out temps are the same check the refrigerant gauge on the heater to ensure there is a refrigerant charge in the unit. Check also the INLET WATER TEMP is lower than the HEAT TEMP set point.

CHAPTER 2 OPERATION



Button Description and Operation

1. **On/Off Button** Press this to turn the unit on or off. Status will be STANDBY mode when heater is off.

2 & 4. **Up/Down Selection Buttons** Use to modify data while heater is in standby mode.

Use to view data while heater is running.

3. **Prg Button** Used to access controller menu options.

5. **Esc Button** Used to confirm changes to menu settings.

Used in view mode to move back through the menu options.

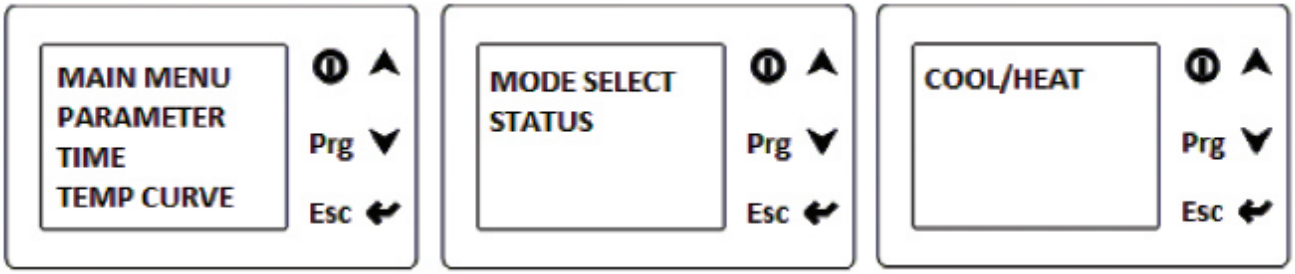
6. Enter Button used to select menu option.

There are 2 operating modes for your heater. Follow the instructions below for Quick setup.

4.1 EXISTING FILTER PUMP/CHLORINATOR/TIMER CONTROLS THE HEATER

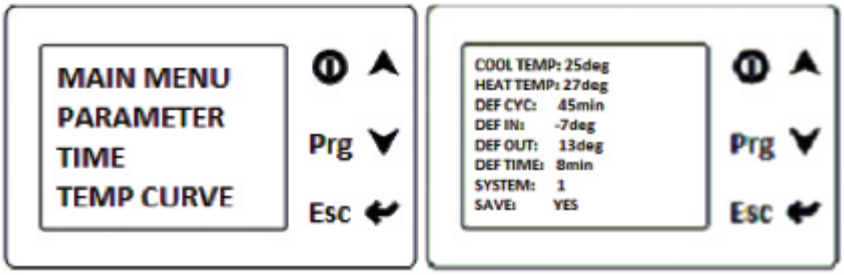
1. **Ensure the heater is in STANDBY mode (1) OFF**

2. **Set the mode to HEAT - Press 6 from MAIN MENU>MODE SELECT>COOL/HEAT**



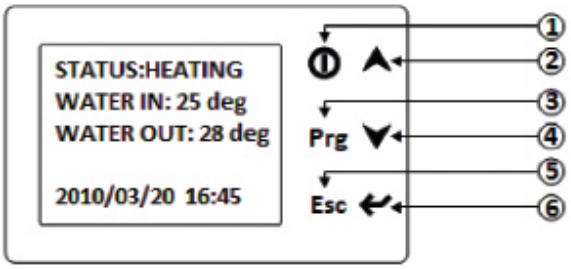
If the pool requires cooling please select cool mode

3. **Set the desired swim water temperature from PARAMETER>HEAT TEMP**



If cooling mode is selected modify the COOL TEMP value

4. Turn the heater ON



5. The heater will turn on and off according to times set on your (A) chlorinator or timing device (B) the temperature set on the controller once reached

At initial startup the water pump may need to be in operation for several days to allow the heat pump to heat the pool to the desired temperature. The operation time of the water pump may also need to be adjusted from winter to summer to ensure adequate time to heat the pool.

In the PARAMETER menu please DO NOT modify any of the following values unless specifically advised by Evoheat – DEF CYC, DEF IN, DEF OUT, DEF TIME, SYSTEM, SAVE, TYPE.

4.2 HEATER CONTROLS A DEDICATED WATER PUMP – ADVANCED OPERATION

This option allows the user to control ***Programmed Options*** mode.

The water pump is dedicated to heater circulation only.

This method requires the water pump to be hard-wired into the heater via the Pump Power inlet. With the water pump wired in this manner the heater is able to operate in the following modes.

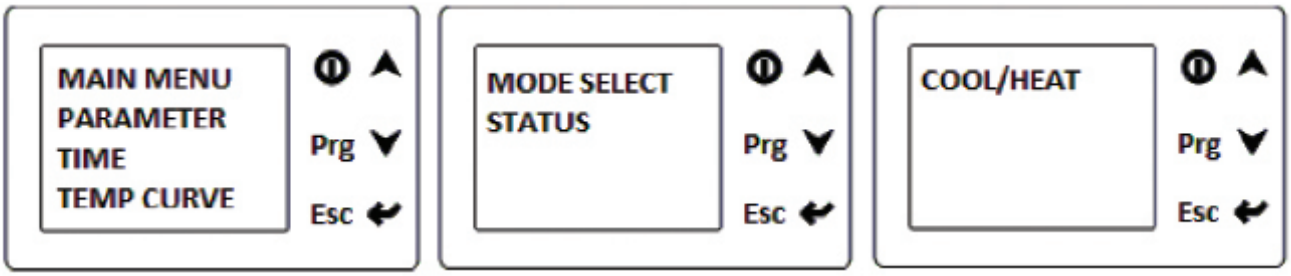
Programmed Options – “Timer” Mode

This mode gives you precise control over your heater start and stop times 7 days a week.

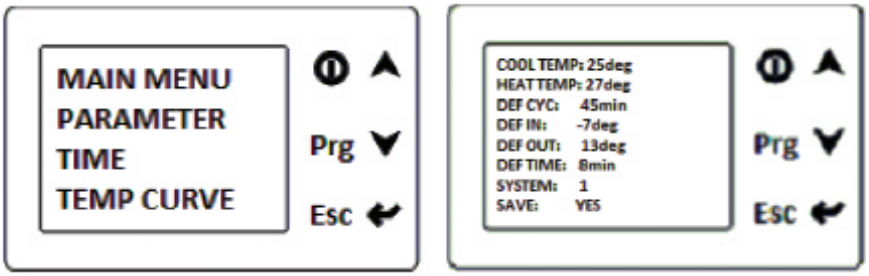
To gain the most efficiency out of your heater, use the timer to run the heater in the hottest part of the day, say 9am – 6pm. This may mean your pool isn’t at the perfect temperature at 3am in the morning for a late night dip, or an early morning swim. This is the most efficient running mode. Setting the timer will require interaction with your heater, and may mean heater operating hours will need to be extended during the cooler months of the year. Evoheat can provide an accurate computer model of your pool's requirements in terms of heater run time. Please contact Evoheat for further advice.

1. Ensure the heater is in STANDBY mode.

2. Set the mode to HEAT from MAIN MENU>MODE SELECT>COOL/HEAT.

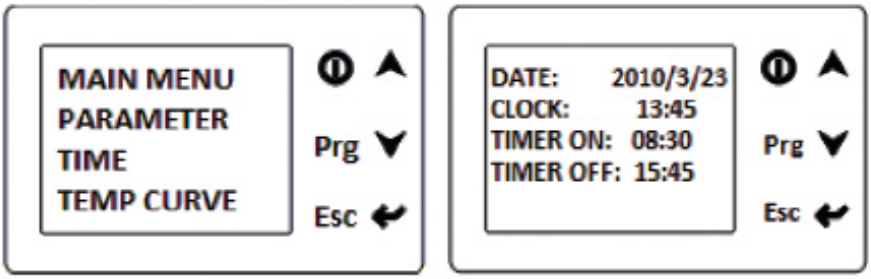


3. Set the desired swim water temperature from PARAMETER>HEAT TEMP

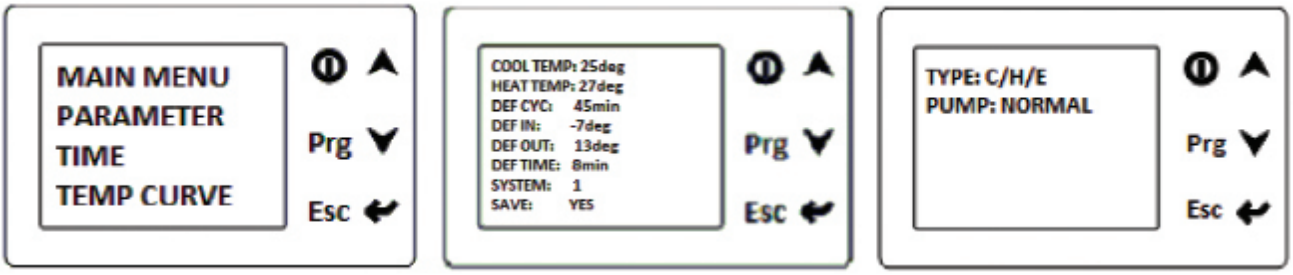


If the pool requires cooling please select cool mode.

4. Set the current date and time and the required heater start and stop time from TIME submenu

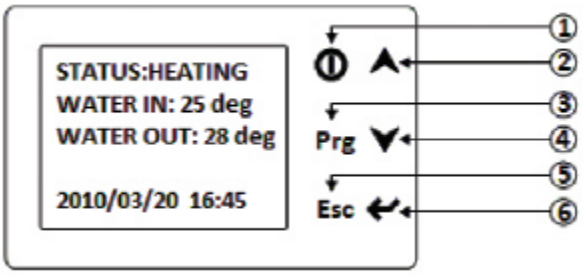


5. Change the Pump from NORMAL to SPECIAL mode from PARAMETER>PUMP



Page down the parameter menu to find the last screen. NORMAL pump mode means the water pump will run 24 hours continuously while the power is on to the heater. SPECIAL pump mode means the water pump will turn on 60 seconds before the compressor in the heat pump switches on and shut off 60 seconds after the compressor switches off.

6. Turn the heater ON



7. The heater will turn on and off according to times set in step 4 above. If the heater reaches the HEAT/COOL TEMP value entered in step 3 above the heat pump will turn itself and the water pump off and wait for the water temperature to drop by 1 degree from the set point. The heater will then restart providing the actual time is within the set start and stop values.

At initial startup the timer may need to be set for 24 hour run time for several days to allow the heat pump to heat the pool to the desired temperature.

The operation time of the heat pump may also need to be adjusted from winter to summer to ensure adequate time to heat the pool.

In the PARAMETER menu please DO NOT modify any of the following values unless specifically advised by Evoheat – DEF CYC, DEF IN, DEF OUT, DEF TIME, SYSTEM, SAVE, TYPE.

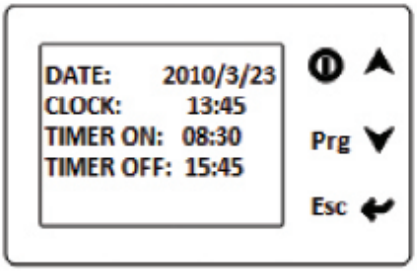
Programmed Options – “Auto” Mode.

This mode allows the user to set their desired water temperature and heater will automatically maintain it and allows your heater to run at various times of the day and night depending on conditions, by controlling the dedicated water circulation pump. See below for further information.

Use your pool at any time day or night at your set temperature. Set the heater on auto mode and walk away and forget about it! This means the heater will operate as required at various times of the day and night. Optimum heater performance is achieved when the air temperatures are at their maximum. This option provides the ultimate in convenience and maximises your return from your pool investment.

1. **Follow all instructions in Programmed Options – “Timer” Mode menu above.**

2. **Set the TIME ON and TIME OFF values to 00:01 and 00:00 respectively.**



By setting the timer to allow the heater to run 24 hours a day you can “set and forget” the operation of the heater. The heater will turn on the water pump, run until it reaches the desired water temperature and then switch itself and the water pump off. Once the water temperature drops by 1 degree inside the internal plumbing of the unit the heater will restart the water pump and heat pump and heat again to the desired temperature. This process will continue indefinitely until manually overridden.

Maintenance and Troubleshooting

5.1 Maintenance

General Maintenance

a. The unit should be serviced once a year by a authorised EVO technician. If the unit is located in a coastal area, more frequent maintenance may be necessary.

b. The unit is designed to withstand only normal rainfall. It is NOT recommended to use a hose or high pressure water cleaner to flush the internals of the heater. Pressurised water may cause damage to the heater. Compressed air is acceptable however care must be taken with the fins of the condensor.

Ensure the unit has sufficient water flow at all times to operate correctly by keeping all filters, skimmer boxes and pump filter baskets clean. Check any bypass valves or other equipment for correct operation and setting. Refer to specifications for correct water flow volume for your heater.

5.2 Troubleshooting

The unit will not run

a. Is the screen of control panel lit? If not, make sure the electrical wires and cables are correctly connected and the power is on. Ensure any circuit breaker devices are set to the ON position and press the ON button on your controller. Check your controller cable is plugged in and is not damaged. If the unit has been shut off or the power has been interrupted the heater will not restart for a 5 minute period to protect the compressor. Wait 5 minutes before attempting a restart.

b. Is there sufficient water flow? If the screen displays a water flow related error check the water flow. Is the water pump in operation and the system free of debris that may cause a blockage? Disconnect pool cleaners to ensure proper water flow.

c. Is the current pool/spa water temperature higher than the set temperature on the controller? If so the unit will not operate until the pool/spa water temperature falls below the set temperature on the controller.

d. Check the unit is set to run at the correct time and date. Please check your current timing or temperature modes on your controller – you may have programmed the unit to turn on at a different time/date.

e. Check the controller for error messages and refer to table below.

The unit is running but not heating

a. Is the fan functioning? If not contact EVOHEAT for service information

b. Is the air discharged from the top of the fan noticeably cooler than the ambient temperature? If not, check the refrigerant gauge on the bottom panel of the heater. Another way to determine if the heater is working correctly is to view MAIN MENU>UNIT STATUS. Check to see if the WATER OUT temp is higher than the WATER IN temp. Check also the INLET WATER TEMP is lower than the HEAT TEMP set point. If the gauge shows less than 0.8MPA (the outside black band) contact **EVOHEAT to check the refrigerant system.**

c. Ensure sufficient fresh airflow around the unit as per installation instructions. Make sure cold air discharged from the top of the unit does not recycle back through the heater. Check and clean the condenser fins if they are dirty or blocked.

d. The unit will periodically defrost when the ambient air temperature is lower than 8 degrees C.

Heater runs continuously

a. Check the set temperature is at your desired level and that the pool water temperature is at or below this set point.

b. Possible electrical component failure – contact EVOHEAT

Water appearing around unit base

a. Condensation is a normal by product of running a pool heat pump.

b. Possible water leak. Check the discharge for the presence of chlorine. If the water has no chlorine then it is condensation and is normal. Another method of checking is to turn the heater off and run the water pump continuously for a period of 2-4 hours. If the water dries out then it was condensation. If there is a continuous leak contact EVOHEAT for service.

Temperature on controller is different from actual pool temperature

a. Possible temperature drop due to plumbing. Try increasing set temperature to reach your desired swim temp

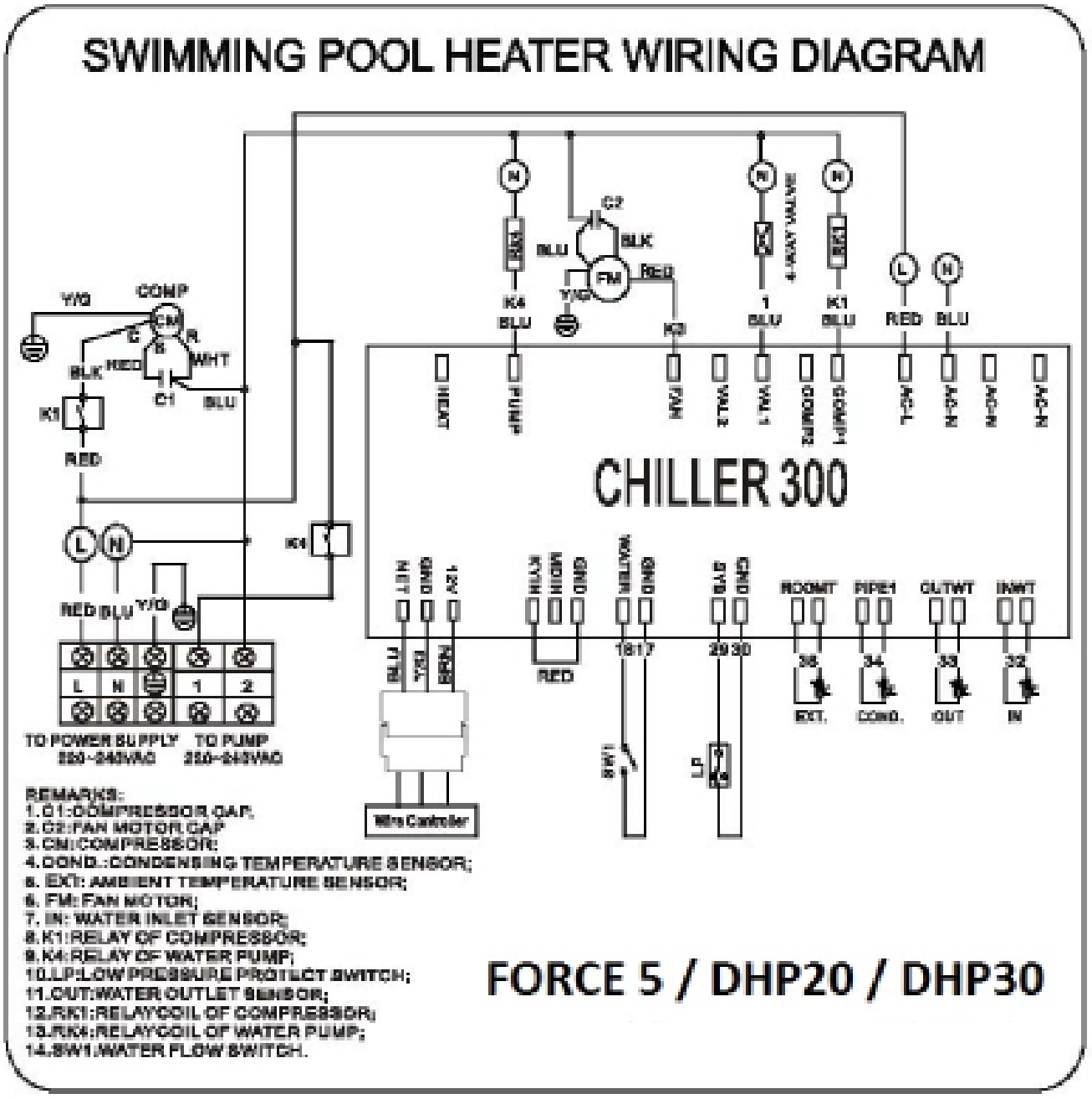
b. Possible fouling of sensor or faulty sensor

Error Descriptions and Solutions

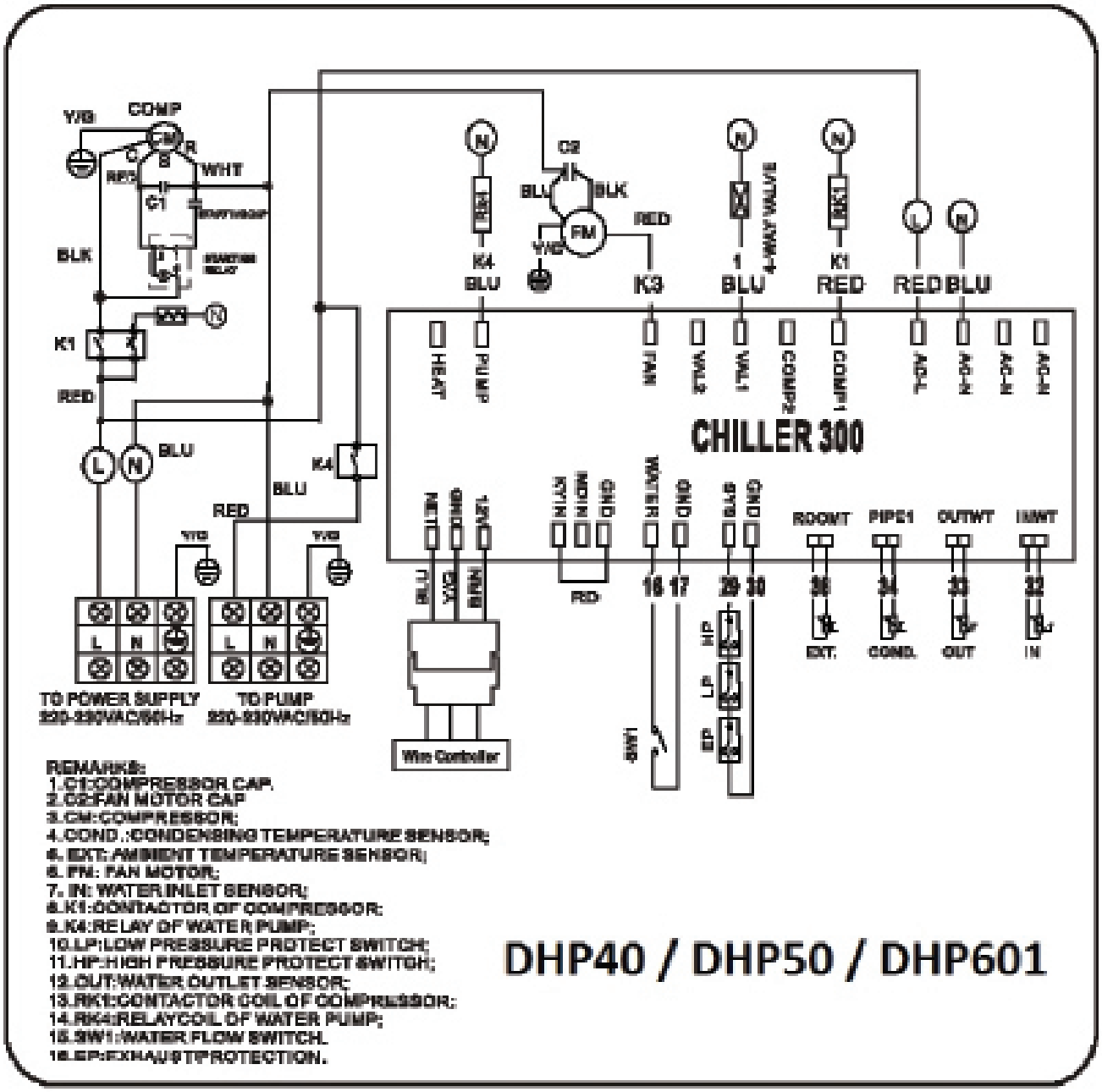
Error	Description	Possible reasons	Solution
E09	**Power phase system protect**	1. wrong phase sequence (3 phase unit)	reverse any two phases
		2. possible loose conection	check all wires to ensure correctly terminated
		3. short circuit between terminals +12V and E3 open (single phase unit)	set up short circuit between +12V and E3
EE01	**Compressor error**	1. incorrect or loose wiring	check wiring against schematic and connection
		2. abnormal power supply	check power supply to ensure correct voltage current etc
		3. compressor failure	check status of compressor by ensuring equal resistance across all compressor connections
E12	**High pressure**	1. incorrect or loose wiring	check wiring against schematic and connection
		2. low water flow volume but still above minimum	increase water flow - check filters, pumps etc for debris
		3. Water backflowing through heater when water pump is off	check for air leaks and ensure no water is flowing
		4. Fan not running	Check fan is running when water pump and heater is on
		5. High Pressure switch failure	check device or replace
E03	**Temp difference erro**r	1. incorrect wiring	check wiring against schematic
P08	**Water flow failure**	2. obstruction in water piping (incl. filter) system	clean water pipes - backflush system if possible
		3. water flow volume under minimum	increase water flow - check filters, pumps etc for debris
		4. water flow switch failure	check, clean device or replace

E08	**Communication failure**	1.faulty connection between main PCB and controller	remove cable, check plugs & sockets and cable for damage
		2. controller hardware failure	check device and wiring connections -replace if req'd
		3. main PCB hardware failure	check device and wiring connections -replace if req'd
P14	**Anti freeze temp**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd
P13	**Pipe temp 1**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd
P05	**Ambient temp**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd
P01	**Water in**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd
P02	**Water out**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd
E11	**Low pressure**	1. incorrect or loose wiring	check wiring against schematic and connection
		2. low or no refrigerant charge	Check refrigerant gauge on unit. A zero or close to zero reading indicates a loss of refrigerant. Contact Evoheat
		3. Low Pressure switch failure	check device or replace
P07	**Frostbite protect**	1. Inlet water temp is too low	If water is close to freezing unit will not run to prevent damage. Wait until water is warmer
		2. Inlet water temp sensor is faulty	check sensor and wiring connections -replace if req'd
PP03	**Coil 1 sensor**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd
PP04	**Coil 2 sensor**	1. The sensor is open or short circuit	check sensor and wiring connections -replace if req'd

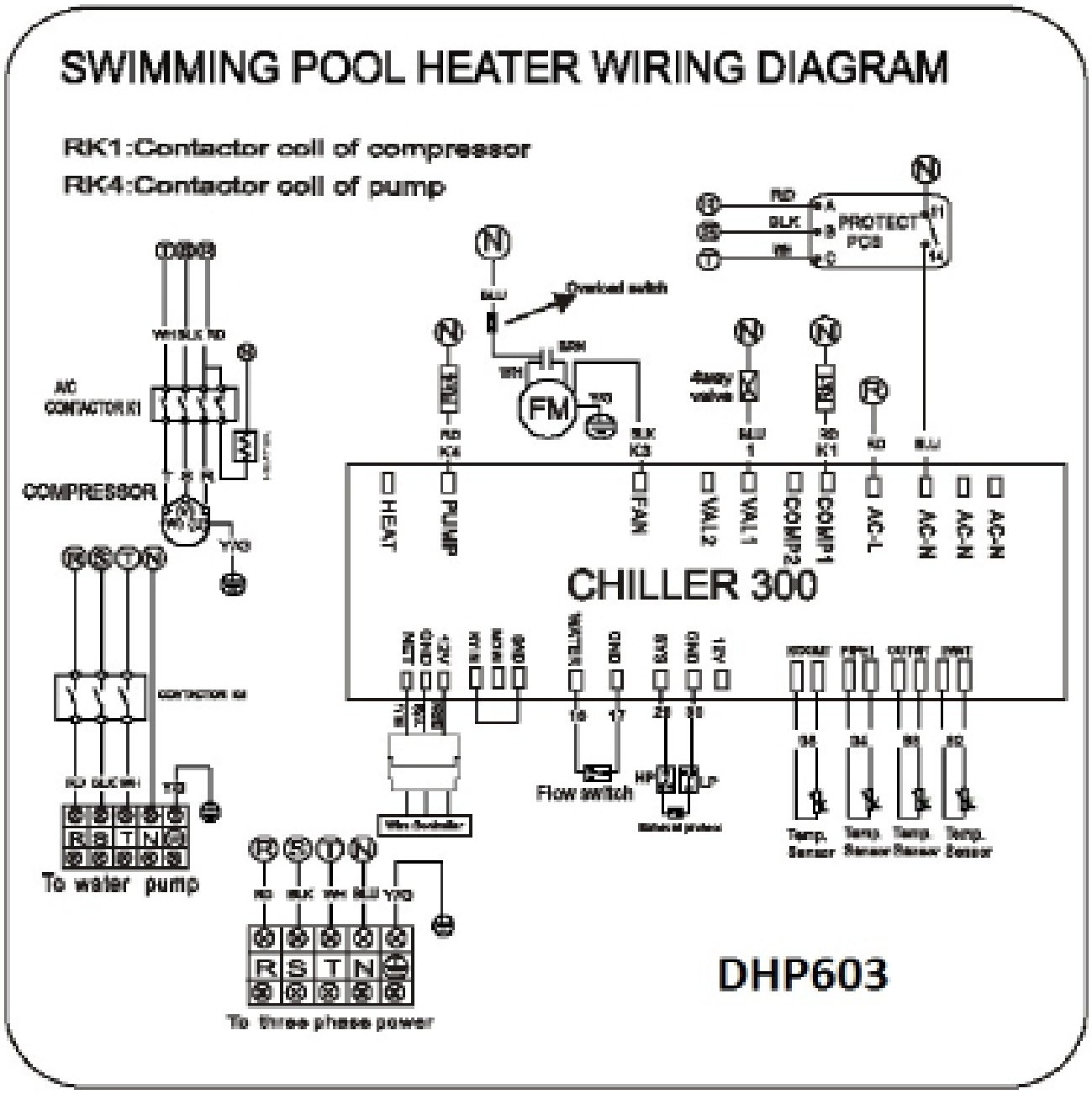
Appendix A – Wiring Diagrams


SWIMMING POOL HEATER WIRING DIAGRAM
CHILLER 300
FORCE 5 / DHP20 / DHP30
TO POWER SUPPLY 220~240VAC
TO PUMP 220~240VAC
REMARKS:
1. C1: COMPRESSOR CAP;
2. C2: FAN MOTOR CAP
3. CM: COMPRESSOR;
4. COND.: CONDENSING TEMPERATURE SENSOR;
5. EXT: AMBIENT TEMPERATURE SENSOR;
6. FM: FAN MOTOR;
7. IN: WATER INLET SENSOR;
8. K1: RELAY OF COMPRESSOR;
9. K4: RELAY OF WATER PUMP;
10. LP: LOW PRESSURE PROTECT SWITCH;
11. OUT: WATER OUTLET SENSOR;
12. RK1: RELAY COIL OF COMPRESSOR;
13. RK4: RELAY COIL OF WATER PUMP;
14. SW1: WATER FLOW SWITCH.

Wiring Diagrams



Wiring Diagrams



EVOHEAT Pump Warranty

1. The titanium heat exchanger tubing is guaranteed against corrosion for a period of fifteen (15) years from the date of purchase when used with chlorine, salt, bromine or sea water.

2. The compressor is guaranteed for five (5) years from the date of purchase.

3. All other parts are guaranteed for two (2) years from the date of purchase

4. This warranty covers all labour for twelve (12) months from the date of purchase

5. This warranty excludes any defect or injury caused by or resulting from misuse, abuse, neglect, accidental damage, improper voltage, vermin infestation, incompetent installation, any fault not attributable to faulty manufacture or parts, any modifications which affect the reliability or performance of the unit.

6. This warranty does not cover the following:

    a. Natural Disasters (hail, lightening, flood, fire etc.)
    b. Rust or damage to paintwork caused by a corrosive atmosphere
    c. When serviced by an unauthorized person without the permission of Evo Industries Australia
    d. When a unit is installed by an unqualified person
    e. Where a unit is incorrectly installed
    f. When failure occurs due to improper or faulty installation
    g. Failure due to improper maintenance (refer Operating Instructions)
    h. 'No Fault Found' service calls where the perceived problem is explained within the Operation Instructions
    i. Costs associated with delivery, handling, freighting, or damage to the product in transit.

7. If warranty service is required you should:

    a. contact Evo Industries Australia on 07 3162 2213 or via our Contact Us page on our web site

    b. provide a copy of your receipt as proof of purchase

    c. have completed the online warranty registration or provide a completed warranty card.

8. Home service is available within the normal operating area of your Evo Industries authorized Service Centre. Service outside this area will incur a travelling fee.

Unless otherwise specified to the purchaser, the benefits conferred by this express warranty and additional to all other conditions, warranties, rights and remedies expressed or implied by the Trade Practices Act 1974 and similar consumer protection provisions contained in legislation of the States and Territories and all other obligations and liabilities on the part of the manufacturer or supplier and nothing contained herein shall restrict or modify such rights, remedies, obligations or liabilities.

Warranty Registration

To register your Warranty, please enter the following details or go online at **www.evoheat.com.au/warranty** to register directly at our website. Fields with a star (*) must be filled in before continuing. For information about what Evo Industries Australia will do with your personal details, please refer to our Privacy Disclaimer.

Family Name: * .....

Given Name: * .....

Preferred Title: * .....

Age Group: * ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 64+

Street Address: * .....

Suburb: * .....

Postcode: * .....

State: * .....

Email: * .....

Please tell us about which EvoHeat product you bought, who you bought it from and what you will be using it for.

Product & Model: * .....

Serial Number: .....

Authorised Installer: .....

Date Purchased: * .....

Date Installed: .....

Receipt Number: * .....

Company you bought it from: * .....

Did you purchase the item when you purchased your pool?: .....

If you purchased it after the pool, how many years did you wait?: .....

What size is your pool or spa?: .....

Why did you choose an **EVOHEAT** product?: .....